

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claim 1 (Currently Amended): An optical encoder comprising:

a first optical detector whose output is configured to change ~~changes~~ with a movement along a first direction of a series of light and dark patterns ~~of a pitch smaller than a predetermined value~~, the first optical detector including a plurality of first photodiodes arranged along the first direction;

a second optical detector whose output is constant with the movement along the first direction of the series of light and dark patterns ~~having the pitch smaller than the predetermined value~~, the second optical detector including a plurality of second photodiodes arranged along the first direction, each of the second photodiodes being provided between the first photodiodes;

a wiring commonly connecting the plurality of second photodiodes; and

a circuit configured to perform ~~which performs~~ a calculation based on the outputs of the first and second optical detectors.

Claim 2 (Currently Amended): The optical encoder according to claim 1, wherein:

the first optical detector includes ~~has~~

a plurality of first photodiodes arranged along the first direction; and

a plurality of wirings,

the plurality of first photodiodes includes ~~consist of~~ a plurality of diode groups, each of the photodiodes belonging to the same diode group being commonly connected to one of the wirings, and adjacent photodiodes belonging to different diode groups.

Claims 3-7 (Cancelled).

Claim 8 (Currently Amended): The optical encoder according to claim [[7]] 1,
wherein

each of the first photodiodes includes ~~has~~ a light detecting part substantially having a shape of rectangle extending along a second direction perpendicular to the first direction, and
each of the second photodiodes includes ~~has~~ a light detecting part substantially having a shape of rectangle extending along the second direction perpendicular to the first direction.

Claim 9 (Currently Amended): The optical encoder according to claim [[5]] 1,
wherein the wiring includes ~~has~~ a line connected to a center part of each of the second photodiode.

Claim 10 (Currently Amended): The optical encoder according to claim 2, wherein
the circuit ~~multiplies~~ is configured to multiply the output of the second optical detector by a constant factor, and is configured to subtract ~~subtracts~~ a result of the multiplication from the output of the first optical detector.

Claim 11 (Original): The optical encoder according to claim 10, wherein the result of the multiplication is smaller than the output of the first optical detector.

Claim 12 (Currently Amended): An optical encoder comprising:
a plurality of first photodiodes arranged in a first direction, each of the first photodiodes including ~~having~~ a light detecting part having a longer axis along a second direction substantially perpendicular to the first direction;

a plurality of second photodiode photodiodes arranged along the first direction, each of the second photodiodes being provided between the first photodiodes near lengthwise tips

of the first photodiodes, and including having a light detecting part having a longer axis along the first direction;

a wiring commonly connecting the plurality of second photodiodes; and

a circuit configured to perform ~~which performs~~ a calculation based on outputs of the first and second photodiodes.

Claim 13 (Currently Amended): The optical encoder according to claim 12, wherein every fourth photodiode of the first photodiodes is connected to a same common wiring.

Claim 14 (Currently Amended): The optical encoder according to claim 12, wherein the circuit is configured to multiply ~~multiplies~~ an output of the second photodiode by a constant factor, and is configured to subtract ~~subtracts~~ a result of the multiplication from an output of the first photodiodes.

Claim 15 (Original): The optical encoder according to claim 14, wherein the result of the multiplication is smaller than the output of the first photodiodes.

Claim 16 (Currently Amended): An optical encoder comprising:

a plurality of first photodiodes arranged in a first direction;

a plurality of second photodiodes commonly connected to a same wiring and arranged along the first direction, each of the second photodiodes being arranged between the first photodiodes; and

a circuit configured to perform ~~which performs~~ a calculation based on outputs of the first and second photodiodes.

Claim 17 (Cancelled).

Claim 18 (Currently Amended): The optical encoder according to claim 16, wherein every fourth photodiode of the plurality of the first photodiodes is connected to a same common wiring.

Claim 19 (Currently Amended): The optical encoder according to claim 16, wherein the circuit is configured to multiply ~~multiplies~~ an output of the second photodiode by a constant factor, and is configured to subtract ~~subtracts~~ a result of the multiplication from an output of the first photodiodes.

Claim 20 (Original): The optical encoder according to claim 19, wherein the result of the multiplication is smaller than the output of the first photodiodes.

Claim 21 (New): The optical encoder according to claim 12, wherein each of the first photodiodes includes a light detecting part substantially having a shape of rectangle extending along a second direction perpendicular to the first direction, and

each of the second photodiodes includes a light detecting part substantially having a shape of rectangle extending along the second direction perpendicular to the first direction.

Claim 22 (New): The optical encoder according to claim 16, wherein each of the first photodiodes includes a light detecting part substantially having a shape of rectangle extending along a second direction perpendicular to the first direction, and

each of the second photodiodes includes a light detecting part substantially having a shape of rectangle extending along the second direction perpendicular to the first direction.